CLAIMS

What is claimed is:

1. A transgenic ungulate comprising a transgene encoding lysozyme, wherein said transgenic ungulate comprises a non-functional β-lactoglobulin allele, wherein said ungulate is female, and wherein said lysozyme-encoding transgene is expressed in mammary gland cells of said ungulate, wherein milk produced by said transgenic ungulate has a level of lysozyme that is at least about 10% higher than the level of lysozyme in milk of a non-transgenic ungulate of the same species, and wherein the milk has a level of β-lactoglobulin that is at least about 10% lower that the level of β-lactoglobulin in milk of a non-transgenic ungulate of the same species.

2. The transgenic ungulate of claim 1, wherein said transgene comprises a coding sequence for lysozyme operably linked to a mammary specific promoter.

3. The transgenic ungulate of claim 1, wherein said ungulate is a cow.

4. The transgenic ungulate of claim 1, wherein said ungulate is a goat.

5. The transgenic ungulate of claim 1, wherein said transgene is chromosomally integrated.

6. The transgenic ungulate of claim 1, wherein said ungulate is heterozygous for the transgene and heterozygous for the non-functional β-lactoglobulin allele.

7. The transgenic ungulate of claim 1, wherein said ungulate is homozygous for the transgene and homozygous for the non-functional β-lactoglobulin allele.

8. The transgenic ungulate of claim 1, wherein the transgene encodes human lysozyme.

9. An isolated fertilized egg, wherein said egg is isolated from a transgenic ungulate comprising a transgene encoding lysozyme and comprising a non-functional β-lactoglobulin allele.

10. A composition comprising an isolated fertilized egg according to claim 9; and a cryoprotective agent.

11. A method of producing a food product, said method comprising harvesting a food product from a transgenic ungulate of claim 1.

12. A method of producing a food product, the method comprising processing a food product harvested from a transgenic ungulate of claim 1.

13. A method of producing cheese, the method comprising:

a) adding rennet to milk harvested from a transgenic ungulate according to claim 1;

b) allowing curd formation to occur; and

c) producing cheese from the curds.

14. A milk product produced by a transgenic ungulate of claim 1, wherein said milk product has a level of lysozyme that is at least about 10% higher than the level of lysozyme in milk of a non-transgenic ungulate of the same species, and wherein said milk product has a level of β-lactoglobulin that is at least about 10% lower than the level of β-lactoglobulin in milk of a non-transgenic ungulate of the same species.

15. The milk product of claim 14, wherein the milk product has reduced rennet clotting time compared to a milk product of a non-transgenic animal of the same species.

16. A processed milk produced from milk of a transgenic ungulate of claim 1.

17. The processed milk product of claim 16, wherein the processed milk product is cheese.

18. The processed milk product of claim 17, wherein the cheese has increased gel strength compared to cheese made from milk of a non-transgenic ungulate of the same species.